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Prognostic factors of surgical outcome in spinal metastases-overview of 337 cases

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Introduction: Longer life expectancy and achievements of medical treatments resulted in an increased incidence of spinal metastases. Surgical treatment of spinal metastases has a 20-30% complication rate which must set against the expected benefits. If the exact risk and complication factors are known preoperatively, surgical outcome could be predicted precisely. Hereby, we present the early results of an extended database of spinal metastatic patients.

Aim: The aim of the study was to define how preoperative risk factors affect surgical outcomes.

Methods: We have made a retrospective database of 337 patients operated on due to spinal metastases in National Institute of Clinical Neuroscience between 2008 and 2015. Several factors were collected: demographic variables, baseline functional status, main symptoms, possible preoperative neurological dysfunction, type of primary tumor and metastases in other organs, the affected vertebral levels, type of surgery, postoperative condition and surgical outcome. Two main complications were evaluated: bleeding (intraoperative or postoperative) and the need for intensive care after the surgery. Fisher exact tests were used to identify significant associations between covariates of interest and categorical outcomes. In the post-hoc analysis the Bonferroni correction was used where appropriate.

Results: Our results prove that age, preoperative Karnofsky score, the type of primary tumor and the type of surgery are statistically significant factors for bleeding complication. The affected vertebral levels and the type of surgery are significant factors of need for postoperative intensive care. Sex, preoperative symptoms, preoperative functional status, possible other metastases are not significant factors of complications.

Conclusion: Our retrospective database could be a base of further extended clinical analysis evaluating the prognostic factors of spinal metastatic patients. We aimed to make a prognostic score system of this disease involving the long-term surgical outcomes also. Our early results are in accordance with the previous surgical results and experiences.

Biography

Peter Banczerowski has spent over 20 years at the leading National Institute of Clinical Neurosciences in Hungary, gaining professional experience in spinal surgery. He is the Chair of Department of Neurosurgery at the National Institute of Clinical Neurosciences, and he is the Head of the Spinal Surgery team, Founder and Program Director of the Center for Spinal Surgery. He is the Professor of Neurosurgery at Semmelweis University.